



Entergy Nuclear Vermont Yankee, LLC  
Entergy Nuclear Operations, Inc.  
185 Old Ferry Road  
Brattleboro, VT 05302-0500

August 25, 2004

Docket No. 50-271  
BVY 04-086  
TAC No. MC0761

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Subject: **Vermont Yankee Nuclear Power Station**  
**Technical Specification Proposed Change No. 263 – Supplement No. 12**  
**Extended Power Uprate – Revised Grid Impact Study**

Reference: 1) Entergy Nuclear Operations, Inc. letter to U.S. Nuclear Regulatory Commission, "Technical Specification Proposed Change No. 263 – Supplement No. 2, Extended Power Uprate – Grid Impact Study," BVY 03-095, October 28, 2003

In support of the application by Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. (Entergy) for a license amendment to increase the maximum authorized power level of the Vermont Yankee Nuclear Power Station from 1593 to 1912 megawatts thermal, Entergy provided in Reference 1 an analysis of the effects of the extended power uprate on transmission grid stability. The attachments to this letter update the information provided in Reference 1.

Attachment 1 is a letter dated March 12, 2004, from the transmission grid operator, ISO New England, which concludes that the extended power uprate will not have adverse effects with respect to electrical grid operations or reliability. The conclusion is conditioned upon the implementation of certain modifications to the plant and transmission system. The letter provided in Attachment 1 supplements but does not supercede the ISO New England letter of October 8, 2003 (provided as Attachment 1 in Reference 1). Those plant modifications necessary to support the first step of power uprate, including the modifications specified in Attachment 1, will be completed prior to increasing power above the current licensed thermal power level.

The second step of power increase is scheduled to commence in the Fall of 2005 following the next refueling outage and the completion of the remaining modifications to support full power uprate. An additional modification, identified as Item 4 in ISO New England's letter of October 8, 2003, entails the addition of capacitor banks. Additional capacitor banks are not required to support the first phase of power uprate, but will be installed prior to exceeding 630 megawatts gross electric.

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The other modifications identified in ISO New England's letter of October 8, 2003, relate to modifications that will be completed as part of the first phase of power uprate. Some of the identified modifications have been revised by Attachment 1.

Attachment 2 completely supercedes the previously submitted System Impact Study (provided as Attachment 2 in Reference 1). Attachment 2 contains certain embedded links or references to spreadsheets, figures, etc. that support the conclusions reached in the study. Based on discussions with NRC staff, Entergy understands that inclusion of the referenced spreadsheets, etc. is unnecessary for NRC review of the study. Therefore, those references are not included herewith. However, if the NRC staff should require additional information that is contained in any supporting reference, Entergy will provide the relevant information upon request.

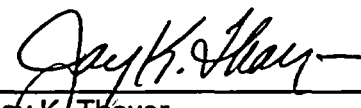
This supplement to the license amendment request does not change the scope or conclusions in the original application, nor does it change Entergy's determination of no significant hazards consideration. Commitments made in this submittal are contained in Attachment 3.

If you have any questions or require additional information, please contact Mr. James DeVincentis at (802) 258-4236.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 25, 2004.

Sincerely,

  
\_\_\_\_\_  
Jay K. Thayer  
Site Vice President  
Vermont Yankee Nuclear Power Station

Attachments (3)

cc: (see next page)

cc: Mr. Richard B. Ennis, Project Manager (w/attachment)  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation  
Mail Stop O 8 B1  
Washington, DC 20555

Mr. Samuel J. Collins (w/o attachment)  
Regional Administrator, Region 1  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406-1415

USNRC Resident Inspector (w/o attachment)  
Entergy Nuclear Vermont Yankee, LLC  
P.O. Box 157  
Vernon, Vermont 05354

Mr. David O'Brien, Commissioner (w/attachment)  
VT Department of Public Service  
112 State Street – Drawer 20  
Montpelier, Vermont 05620-2601

Attachment 1

Vermont Yankee Nuclear Power Station

Proposed Technical Specification Change No. 263 – Supplement No. 12

Extended Power Uprate – Revised Grid Impact Study

ISO New England Letter of March 12, 2004

Total number of pages in Attachment 1  
(excluding this cover sheet) is 2.



**Stephen G. Whitley**  
Senior Vice President & Chief Operating Officer

March 12, 2004

Mr. Craig Nichols  
Mr. George Thomas  
Entergy Nuclear Vermont Yankee, LLC  
Vermont Yankee Nuclear Power Station  
P.O. Box 250  
Governor Hunt Road  
Vernon, VT 05354

Subject: ENTERGY-03-G02

Gentlemen:

ISO New England has determined pursuant to Section 18.4 that implementation of the Participant plan identified in the following application will not have a significant adverse effect on the reliability or operating characteristics of the Participant that submitted the application or upon the system of any other Participant, subject to satisfaction of any conditions identified below with respect thereto:

The Entergy Nuclear Vermont Yankee, LLC (ENTERGY) Subordinate Generation 18.4 Application ENTERGY-03-G02 for increasing the gross electrical megawatt output of the Vermont Yankee Nuclear Power Station generator, located in Vernon, Vermont (the "Project"), by 67 MW (563 MW to 630 MW), as the first phase ("Step 1") of two uprate stages commencing in the third quarter of 2004, as detailed in Messrs. Craig Nichols' and George Thomas' December 2, 2003 transmittal to Mr. Stephen Rourke, Chairman - NEPOOL Reliability Committee and as previously approved by ISO New England on December 11, 2003, subject to the following **modified** conditions:

1. The Project's first step having the net ratings of 604.5 MW at 20 °F and 50 °F and 598.5 MW at 90 °F; a gross maximum plant rating of 630 MW; and a gross reactive capability, under full output conditions, of 100 MVAR leading and 220 MVAR lagging.
2. Increasing the pre-contingency MVA rating on the Vermont Yankee -Northfield 345 kV Line (Section 381) from the current rating of 896 MVA to a minimum rating of 1075 MVA by replacing the limiting line relay equipment.
3. Increasing the post-contingency MVA rating on the Ascutney – Coolidge 115 kV Line from the current LTE rating of 205 MVA to 240 MVA by replacing approximately 25 feet of the limiting riser conductor.
4. Providing a second primary protection scheme on Vermont Yankee north bus to achieve acceptable performance in response to a normal contingency fault.

5. Adding a second primary protection scheme on the Vermont Yankee GSU to achieve acceptable performance in response to a normal contingency fault. **Subject to NPCC approval Entergy may, on an interim basis only, install a software based relay scheme to the GSU primary until new low voltage current transformers are installed during the fall of 2005. The new software based relay installation provides two independent primary protection schemes. However, due to the intentional time delay required to maintain proper relay coordination, the system response for some potential disturbances does not meet NEPOOL Reliability Standards. An NPCC fully compliant second primary protection scheme shall be installed on the Vermont Yankee GSU no later than the Vermont Yankee startup date following the 2005 Refueling Outage.**
6. Upgrading the Vermont Yankee 381 Breaker to an IPT breaker.
7. Addition of out-of-step protection on the Vermont Yankee generator to ensure acceptable performance in response to several extreme contingencies.
8. Completion of any additional transmission modifications required for the Project that may result from the development of any or all of the Relevant Queued Resources to the extent required under the Subordinate 18.4 Application Policy. These relevant Queued Resources include:

**~~Berwick Energy Center~~**  
 UAE Tewksbury  
 Neptune Phase 3 Boston Import  
 Neptune Phase 7 Wyman Export  
**~~Mystic 4,5,6-345 kV Conversion~~**  
 Millstone Unit No. 3 Power Uprate projects

9. The approval, under Section 18.4 of the Restated NEPOOL Agreement, of the modified excitation system model parameters for the Millstone Point Unit 3 generator that were included in the stability analysis for the Project or the installation of any additional transmission modifications that may be required as the result of those parameters being further modified to attain such approval.

The above plan is hereby approved for implementation.

Sincerely,



Stephen G. Whitley  
 Senior Vice President and Chief Operating Officer

cc: 18.4 Application